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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,262	05/23/2002	Dietmar Krueger	7040-53	1709

21324 7590 07/26/2004

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EXAMINER
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JACKSON JR, JEROME

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 07/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/069,262

Applicant(s)

KRUEGER ET AL.

Examiner

Jerome Jackson Jr.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-26 and 32-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-26, 32 and 37-58 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 33-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

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The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Figure 1c should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Applicant's arguments that figure 1c is not prior art is not convincing. Page 7 lines 19-23 clearly indicate that figure 1c is prior art because MBE and extremely clean low pressure CVD is stated to be prior art processes for producing the prior art device. See also page 3 lines 27- page 4 line 2.

Claims 1-4 and 33-36 are rejected under 35 U.S.C. 102(b) as being anticipated by applicant's prior art admissions.

The previous rejection still applies. The new limitation "locally" does not structurally distinguish over the prior art because the oxygen contamination occurs locally beneath the emitter layer in the prior art also, notwithstanding that it may also occur outside the emitter area. The claims are broad and undistinguishing over the prior art. The new claims are similar to claims 1-4 are likewise rejected.

Claims 1-4, 33-36 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jeng '481.

The previous rejection with the above comments on "locally" applies.

Claims 5-26, 32, and 37-58 are allowed.

Applicant's arguments filed 4/23/04 have been fully considered but they are not persuasive. Arguments that "locally" in the claims restrict the oxygen to only beneath the emitter layer is unconvincing and applicant is reading too much into the claims. First, it is not clear that the prior art processes necessarily contain oxygen outside the emitter area. Secondly, the term "locally" by itself and in the present claims merely define that oxygen is present in the emitter area. The term "locally" does not by itself negate any oxygen in areas outside the emitter area and there is no clear language in the claims positively defining no oxygen in any other area outside the emitter.

Arguments regarding prior art figure 1a are also not convincing. Layer 4 of prior art figure 1a can be described as an "emitter" layer as it is disposed on the base layer 3. It is also monocrystalline as described in the specification.

Arguments regarding Jeng are also unconvincing of patentability as the term "locally" does not distinguish the claims over Jeng as described above. Arguments regarding the placement of the "interfacial" layers in Jeng are not convincing because the claim language is broader than applicant is apparently reading. Applicant's claim 1 is anticipated by the structure of Jeng where there is a base (semiconductor) region, a monocrystalline emitter region, an oxide region, and a polycrystalline wide bandgap emitter contact layer.


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**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Jackson Jr. whose telephone number is 571 272 1730. The examiner can normally be reached on t-th 9-5.

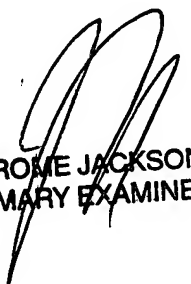
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571 272 1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

  
JEROME JACKSON  
PRIMARY EXAMINER

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jj

  
JEROME JACKSON  
PRIMARY EXAMINER